

In the Claims

Please amend the claims as follows:

1-107. (Cancelled)

108. (New) A pharmaceutical composition comprising an antisense oligonucleotide effective to alleviate hyper-responsiveness to adenosine or increased levels of adenosine, or to alleviate bronchoconstriction, asthma, or lung allergy, wherein said antisense oligonucleotide is 4 to 60 nucleotides long and comprises 15% or less adenosine, wherein said antisense oligonucleotide is antisense to a target polynucleotide, wherein said pharmaceutical composition is of a respirable or inhalable particle size.

109. (New) The pharmaceutical composition of claim 108, wherein the antisense oligonucleotide comprises 10% or less adenosine.

110. (New) The pharmaceutical composition of claim 109, wherein the antisense oligonucleotide comprises 5% or less adenosine.

111. (New) The pharmaceutical composition of claim 110, wherein the antisense oligonucleotide is adenosine-free.

112. (New) The pharmaceutical composition of claim 108, wherein the antisense oligonucleotide is 9 to 51 nucleotides long.

113. (New) The pharmaceutical composition of claim 112, wherein the antisense oligonucleotide is 18 or 21 nucleotides long.

114. (New) The pharmaceutical composition of claim 108, wherein the antisense oligonucleotide is antisense to the initiation codon, the coding region or the 5' or 3' intron-exon junction of a gene encoding a protein associated with hyper-responsiveness to adenosine, hyper-

responsiveness to increased levels of adenosine, hyper-responsiveness to increased levels of an adenosine receptor, bronchoconstriction, asthma, lung allergy, or lung inflammation, or is antisense to the corresponding mRNA thereof.

115. (New) The pharmaceutical composition of claim 108, wherein the particle size is about 0.5 μm to about 10 μm in size.

116. (New) The pharmaceutical composition of claim 108, wherein the particle size is 10 μm to 500 μm in size.

117. (New) The pharmaceutical composition of claim 108, further comprising a surfactant.

118. (New) The pharmaceutical composition of claim 108, wherein the hyper-responsiveness to adenosine, hyper-responsiveness to increased levels of adenosine, hyper-responsiveness to increased levels of an adenosine receptor, bronchoconstriction, asthma, lung allergy, or lung inflammation is associated with allergy, chronic obstructive pulmonary disease, asthma, acute respiratory distress syndrome, respiratory distress syndrome, or a side effect of adenosine administration.

119. (New) The pharmaceutical composition of claim 108, wherein the antisense oligonucleotide is administered in an amount of about 0.01 to about 150 mg/kg body weight.

120. (New) The pharmaceutical composition of claim 108, wherein the antisense oligonucleotide is antisense to the initiation codon, the coding region or the 5' or 3' intron-exon junctions of a gene encoding an adenosine A₁ receptor, adenosine A_{2b} receptor or adenosine A₃ receptor.

121. (New) The pharmaceutical composition of claim 108, wherein said antisense oligonucleotide comprises a sequence of SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5 or SEQ

ID NO: 7 to SEQ ID NO: 996.

122. (New) The pharmaceutical composition of claim 108, wherein said antisense oligonucleotide comprises wherein at least one mononucleotide linked or modified by one or more of phosphorothioate, phosphorodithioate, methylphosphonate, phosphoramidate, boranophosphate, phosphotriester, formacetal, 2'-O-methyl, thioformacetal, 5'-thioether, carbonate, 5'-N-carbamate, sulfate, sulfonate, sulfamate, sulfonamide, sulfone, sulfite, sulfoxide, sulfide, hydroxylamine, methylene (methylimino) and methyleneoxy (methylimino), terminal 1,3-propanediol, terminal dodecanol, 2'-O-methoxyethyl, C-5-propynyl pyrimidine, C-5 methyl cytidine, C-5 ethynyl pyrimidine, 2' propoxy, C-18 amine, N3'-P5 phosphoramidates, 3'-alkylamino, 2'-fluoro pyrimidine, 5-fluoro pyrimidine, 5-iodo pyrimidine, 5-bromo pyrimidine, 2'-borano, C-5 hexynyl pyrimidine, 2'-O-(2-methoxy)ethyl, 2'-O-aminopropyl, 5-(phenylethyl) or a peptide nucleic acid interbase linkages or conjugated to a polyethylene glycol, cholesterol, cholesteryl, dehydroepiandrosterone, dehydroepiandrosterone sulfate, dehydroepiandrosterone sulfatide, ubiquinone, dolichol, poly L-lysine, sulfatidic acid or a fatty acid.